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[54] **OPTICAL CHANNEL REGULATOR AND METHOD**

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[52] **U.S. Cl.** **359/127**; 359/161; 359/187; 385/140

[58] **Field of Search** 359/110, 124, 359/127, 161, 187; 385/140

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[57] **ABSTRACT**

An optical channel regulator (**46**) is provided. The optical channel regulator (**46**) includes a tapped optical coupler (**60**) receiving an optical line carrying an optical signal. The tapped optical coupler (**60**) provides substantially all of the optical signal as an output. An electrically variable optical attenuator (**64**) receives the output of the tapped optical coupler (**60**) and attenuates the optical signal responsive to a feedback control signal. A second tapped optical coupler (**66**) receives an output of the attenuator (**64**). The second coupler (**66**) provides substantially all of the received optical signal as an output and provides a remaining portion of the optical signal as a tapped output. An optical detector (**68**) then receives the tapped output and provides an output signal representing the optical signal. A comparator (**70**) receives the output signal of the optical detector (**68**) and a reference signal. The comparator (**70**) compares the output signal and the reference signal and provides the feedback control signal to the attenuator (**64**) responsive to the comparison. As part of a multi-channel communication system, the regulator is used to adjust the levels of each channel for automatically maintaining channel balance and equalization.

8 Claims, 3 Drawing Sheets